

when once they have attacked it, and are even propagated by layers and cuttings, that grafting alone can cure the evil, when it is desired to avoid the radical remedy of pulling up, and, lastly, that certain varieties are more subject than others to this organic change—the “Terret noir,” for example, being most inclined to become *avalidouïre* or *coulard*, and the “*Clairette blanche*” being hitherto the only one which has furnished us with double flowers.—*Comptes Rendus*, February 11, 1867, pp. 254–259.

*Note on the Law of Sexual Development in Insects.*

By H. LANDOIS.

It is generally supposed, from the observations of Dzierzon and Von Siebold, that the working bees originate from ova fecundated by the queen which deposits them, by means of the semen of her *receptaculum seminis*, whilst the male bees issue from non-fecundated ova. Von Siebold especially averred that the demonstrated existence of spermatozoids in the eggs of worker-cells, and their non-existence in those of drone-cells, sufficiently prove that in bees the formation of the sexes depends upon fecundation. But the eggs from which worker bees originate are deposited, as is well known, in different cells from those of the males; and, moreover, the paste which serves for the nourishment of the young bees is not the same in the two cases. Hence naturally arose the question whether it would not be possible to produce male bees from eggs laid by the queen in cells intended for workers, by transferring these eggs into cells made for drones, and taking care that the adult workers should not give the larvæ any nourishment but that on which the drones are fed. On the other hand, by a similar transfer, might not workers be produced from drone-eggs?

I have made this experiment several times,—at first, indeed, without success, because the bees quickly destroyed my work of transfer; but finally I succeeded in deceiving them, not only once, but repeatedly. I may remark that we cannot succeed in the transfer of the eggs if they are removed from an oviferous comb into another containing no eggs. The eggs being extremely delicate, care must be taken not to touch them in transferring them. To manage this, by means of a small pointed knife I cut the bottom of the cell a little round each egg, and then, removing the little fragment of wax with the egg which it bore, I transported it into another cell.

I was surprised to see worker bees originate from male eggs, and *vice versd*. There could not be any error in the experiment, for I made my observations several times every day; besides, when the bees had emerged, the shell of the egg was still to be seen placed upon the little morsel of wax which had served to transport it. According to these experiments, therefore, it is not to the fecundation of the eggs, or to the want of this fecundation, that we can ascribe the production of workers or drones; but it is upon the food that the sexual characters of the bees depend.—*Comptes Rendus*, February 4, 1867, pp. 222–224.